

WHAT IS CLAIMED IS:

1. A thin film magnetic memory device comprising:
a magnetic memory cell, provided on a main surface of a semiconductor substrate, operating as a memory element;
a buffer layer having a first surface bringing into contact with said magnetic memory cell and a second surface, located on the side opposite to said first surface, having an area smaller than that of said first surface;
and
a wire extending in one direction so as to intersect said magnetic memory cell and so as to bring into contact with said second surface.
2. The thin film magnetic memory device according to claim 1, wherein
said buffer layer contains at least one of titanium and tantalum.
3. The thin film magnetic memory device according to claim 1, wherein
said buffer layer is formed so that the cross sectional area of said buffer layer in a plane parallel to the main surface of the semiconductor substrate becomes smaller as the position of the plane approaches said second surface, starting from said first surface.
4. The thin film magnetic memory device according to claim 1, wherein
said magnetic memory cell is formed so that the cross section of the memory cell in a plane parallel to the main surface of the semiconductor substrate has a circular form.
5. A manufacturing method for a thin film magnetic memory device, comprising the steps of:
depositing a conductor film on a main surface of a semiconductor substrate;

5 depositing a lamination film, including a magnetic film, on said
conductor film;
 forming a first mask film on said lamination film;
 etching a portion of said lamination film and a portion of said
10 conductor film using said first mask film as a mask while leaving the other
portions, thereby forming first and second wires extending in strip forms at
a predetermined distance away from each other and including said
conductor film while forming lamination films in the same strip forms as
said first and second wires on said first and second wires;
 forming a second mask film extending on said lamination films in
15 strip forms so as to intersect said first and second wires; and
 etching a portion of said lamination films in strip forms using said
second mask film as a mask while leaving the other portions, thereby
forming a magnetic memory cell operating as a memory cell.

6. The manufacturing method for a thin film magnetic memory
device according to claim 5, further comprising the step of
 performing isotropic etching on said magnetic memory cell after the
step of forming said magnetic memory cell so as to make the cross section of
5 said magnetic memory cell in a plane parallel to the main surface of the
semiconductor substrate into a circular form.

7. The manufacturing method for a thin film magnetic memory
device according to claim 5, wherein
 said second mask film intersects said first and second wires in an
inclined direction.